

IN THE CLAIMS:

Please amend the claims as shown below. The status of the claims after amendment will be as follows:

1. (currently amended) A lead-free solder comprising ~~consisting of~~ 0.05 - 5 mass % of Ag, 0.01 - 0.5 mass % of Cu, at ~~least one of P, Ge, Ga, Al, and Si in a total amount of 0.001 -~~ 0.05 mass % of P, ~~[[0 -]]~~ at least 0.001 mass % of at least one of Ni and Co with the total amount of Ni and Co being at most 0.1 mass % ~~in a total amount of one or more transition elements, 0 -~~ 5 mass % of at least one of Bi, In, and Zn, ~~0 - 1 mass % of Sb,~~ and a remainder of Sn.

2. (currently amended) A lead-free solder as claimed in claim 1 ~~wherein the amount of Cu is~~ containing at most 0.3 mass % of Cu.

3. (currently amended) A lead-free solder as claimed in claim 2 ~~wherein the amount of Cu is~~ containing at most 0.1 mass % of Cu.

Claims 4 - 6 (cancelled)

7. (original) A solder bump comprising a lead-free solder as claimed in claim 1.

8. (original) A BGA package including a substrate, a semiconductor chip disposed on a first side of the substrate, and a plurality of solder bumps comprising a lead-free solder as claimed in claim 1 formed in an array on a second side of the substrate and electrically connected to the semiconductor chip.

9. (original) A lead-free solder ball comprising a lead-free solder as claimed in claim 1.

10. (original) A method of forming soldering bumps comprising placing solder balls comprising a lead-free solder as claimed in claim 1 on a substrate and heating the solder balls to melt the solder balls and form them into solder bumps secured to the substrate.

11. (original) A method as claimed in claim 10 including previously preparing the solder balls by dropping pieces of the lead-free solder into a hot oil bath to form the pieces into spheres.

12. (original) A method of forming solder balls comprising dropping pieces of a lead-free solder as claimed in claim 1 into a hot oil bath to form the pieces into spheres.

13. (new) A lead-free solder as claimed in claim 1 containing at least 0.001 mass % of Co.

14. (new) A lead-free solder as claimed in claim 13 containing at least 0.001 mass % of Ni.

15. (new) A lead-free solder as claimed in claim 13 containing a total of 0.005 - 0.08 mass % of at least one of Ni and Co.

16. (new) A lead-free solder as claimed in claim 13 containing a total of 0.01 - 0.05 mass % of at least one of Ni and Co.